

USING SEAWIFS OCEAN COLOR ABSORPTION, BACKSCATTER PROPERTIES TO DISCRIMINATE COASTAL WATERS

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Water masses are characterized by spectral backscattering, absorption (chlorophyll) and absorption (CDOM) using SeaWiFS in coastal regions. We describe simple tertiary scatter diagrams of these optical properties to define the distribution of these properties in coastal and offshore waters. The percent concentration and the magnitude of each optical property are used to define optical regimes. The diagram improves and expands the simple "CASE 2" water classification into distinct regimes. Ocean color imagery are linked with the diagram to illustrate the spatial variability of optical properties. Improved ocean color algorithms using the NIR region of the spectrum and a coupled ocean - atmosphere models permit optical properties to be obtained in coastal regimes. In coastal waters, these properties are not always co-varying and this leads to classification of waters by optical properties. We show examples of SeaWiFS derived optical properties for coastal areas and how water masses are distributed within the diagram and within the coastal environment. We trace the optical evolution of coastal water masses using SeaWiFS products with the tertiary scatter diagrams.